

Title (en)
Electric motor with a permanent magnet rotor

Title (de)
Elektromotor mit Dauermagnetläufer

Title (fr)
Moteur électrique avec rotor à aimants permanents

Publication
EP 1414130 A2 20040428 (EN)

Application
EP 03007579 A 20030402

Priority
KR 20020065690 A 20021026

Abstract (en)
An electric motor, more particularly, a rotor structure of an electric motor comprises: a stator including a plurality of teeth and coil wound on the teeth to form rotary magnetic flux by applied electric source; a rotary shaft; and a rotor rotatably installed in the stator, the rotor including a shaft insertion hole so that the rotary shaft can be inserted therethrough and fixed, wherein, the rotor includes a plurality of permanent magnet insertion slots of 'V' or 'U' shape formed in radial direction as centering around the shaft insertion hole, and permanent magnets are inserted and fixed into the permanent magnet insertion slots respectively, and a plurality of air gap expanding portions, on which air gaps from the teeth of the stator are expanded, are formed on an outer circumferential surface of the rotor. <IMAGE>

IPC 1-7
H02K 1/27; **H02K 29/03**

IPC 8 full level
H02K 29/00 (2006.01); **H02K 1/27** (2006.01)

CPC (source: EP KR US)
H02K 1/27 (2013.01 - KR); **H02K 1/2766** (2013.01 - EP US); **H02K 29/00** (2013.01 - KR)

Cited by
CN106716782A; EP2038984A4; WO2013124787A1; WO2009143855A1

Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 1414130 A2 20040428; **EP 1414130 A3 20050216**; **EP 1414130 B1 20061122**; CN 100541987 C 20090916; CN 1492566 A 20040428; DE 60309811 D1 20070104; DE 60309811 T2 20070913; JP 2004147487 A 20040520; JP 3793170 B2 20060705; KR 100486589 B1 20050503; KR 20040036485 A 20040430; US 2004080228 A1 20040429; US 6774523 B2 20040810

DOCDB simple family (application)
EP 03007579 A 20030402; CN 03122198 A 20030425; DE 60309811 T 20030402; JP 2003113242 A 20030417; KR 20020065690 A 20021026; US 41234103 A 20030414